

ELIZABETH FURNACE  
East side of PA 4018 at PA 4019  
Bellwood Vicinity  
Blair County  
Pennsylvania

HAER No. PA-319

HAER  
PA  
7-BELLV,  
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
P.O. Box 37127  
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

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ELIZABETH FURNACE

HAER No. PA-319

Location: West side of State Hwy 866, .1 Mile S. of  
Twp Road 392  
Williamsburg (vic.), Blair County  
Pennsylvania

UTM: 17 E.724520 N.4494060  
Quad: Bellwood  
Scale: 1:24,000

Date of Construction: 1832

Present Owner: Unknown.

Present Use: Abandoned.

Significance: Built in 1832 by Edward Bell and his son  
Martin, the younger Bell received a  
patent a pre-heating element that heated  
the air prior to its injection into for  
the iron furnace. This pre-heating hot-  
blast system was likely used at the  
Elizabeth furnace.

Historian: Nancy Shedd, 1987.

Project Information: The results of the study of Cambria  
County were published in 1990:  
Fitzsimons, Gray, editor, Blair County  
and Cambria County, Pennsylvania: An  
Inventory of Historic Engineering and  
Industrial Sites (Washington, D.C.:  
America's Industrial Heritage Project  
(AIHP) and HABS/HAER, National Park  
Service). The contents of the publication  
were transmitted to the Library of  
Congress as individual reports. Research  
notes, field photos and copies of  
historic photos collected during the  
project were transmitted to the AIHP  
Collection, Special Collections,  
Stapleton Library, Indiana University of  
Pennsylvania, Indiana, PA 15705.

## History

Around 1800 Edward Bell moved from Fort Lowry, Pennsylvania, in Canoe Valley and settled near the Logan Spring in Logan Valley. By 1810 this section of Logan Valley formed the heart of Antis Township and several grist and saw mills and large farms were located here. Edward Bell became one of the township's prominent landholders, whose properties included saw and grist mills, and a distillery. The town of Bellwood, situated on the Little Juniata River and originally called Bell's Mills, was named for him. In 1825 Bell's daughter, Mary Ann married John S. Isett, whose family was involved in the iron business in Huntingdon County and later owned the Mt. Etna Iron Works at nearby Yellow Spring. It is likely that as a result of this marriage, Edward Bell developed an interest in the iron industry for in 1829, he and one of his sons, John, built a forge, which they named Mary Ann. Located in Antis Township along the Little Juniata River, this forge cost \$13,000 to build, employed twenty-five men, and operated with three heating furnaces. When the forge first opened, it used pig iron produced by iron furnaces in the region and shipped its blooms and bars as far as Ohio and Kentucky.

In 1832 Edward Bell and his son, Martin, expanded the family's iron business, by constructing the Elizabeth Furnace south of Bellwood along Beaver Dam Run in the presently unincorporated town of Pinecroft. Following the death of his father, Martin took control of the furnace and forge. In 1836 he greatly modified the furnace, replacing the water-powered bellows with a steam boiler arrangement and converting it from a cold-blast to a hot-blast operation. To create the steam, Bell used hot gas from the furnace. He applied for a patent for this process in 1836, and the U.S. Patent Office issued him Patent No. 1630 on 10 June 1840. When a renewal for the patent was sought later, it was discovered that the process had been claimed and patented by another iron master in 1838. However, during the course of a subsequent trial it was determined that the 1838 claimant had, in fact, stolen the process from Bell's Elizabeth Furnace, and Bell's patent was reaffirmed. In 1848 Bell instituted the practice of a six day work week at Elizabeth Furnace, by shutting the furnace down on the Sabbath. One of the results of this practice was the naming of the newly established local post office "Sabbath Rest." By 1849, through the efforts of fifty employees, the furnace produced over 500 tons of pig iron, while the twenty men employed at the forge produced 400 tons of iron blooms. J.P. Lesley, the Secretary of the American Iron Association, noted in the late 1850s that the Elizabeth Furnace was "9' across the bosh by 32' high, and made in twenty-six weeks of 1857 962 tons of foundry, car-wheel and forge metal out of brown hematite ore from a bank in a cove of Trenton limestone[,] distant one mile south." (The Mary Ann Forges, No. 1 and No. 2, together consisting of "five forge fires, one run-out fire, and two hammers

driven by water, and made in 1856 about 400 tons of blooms and 12 of bars.")

According to an early 1870s atlas of Blair and Huntingdon counties, Elizabeth Furnace was a thriving settlement with a sawmill, the "Sabbath Rest" post office, a school, a dozen or so workers' cottages, and a number of houses occupied by descendants of Edward and Martin Bell. By 1872 the Elizabeth Furnace had been converted from charcoal to coke, however, that same year, the Mary Ann Forges were closed. The Elizabeth Furnace remained in operation until 1884 when it was taken out of blast.

Located west of US 220 in the unincorporated town of Pinecroft, the stack of the Elizabeth Furnace is still standing. To the east, just off US 220, stands the Bell residence, probably erected in the 1830s. It is a two-and-one-half-story building with Flemish-bond brick walls, gable-end chimneys, three-gable roof dormers, and an off-center entrance. With the exception of the unusual off-center entrance, the house was built largely in the Federal style. It is the only surviving brick residence of an ironmaster in Blair, Huntingdon, and Cambria counties. Unfortunately, nothing remains of the Mary Ann Forges, the site of which contains a sewage disposal facility.

#### Sources

J.P. Lesley, American Iron Association Bulletin, 1856-1857, Philadelphia: American Iron Association, 1857.

J.P. Lesley, The Iron Manufacturer's Guide to the Furnaces, Forges and Rolling Mills of the United States, New York: John Wiley, 1859.

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Louis McLane, Documents Relative to the Manufacturers of the United States. Vol. 2, 1833, (Reprinted 1969), New York: Augustus Kelly, 1969.

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